

## GOLF SIMULATION

This draws a golf course in graphics mode with endless variations on bunkers, water hazards and roughs, and allows the player to actually 'play' the shots giving a choice of club, hitting strength and direction.

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40 REM GOLF SIMULATION
50 REM BY GARY J MCCLEARY
51 REM DEC. 1983
100 CLS
110 PRINT#33,"WELCOME TO GLENLAY GOLF CO
URSE"
111 PRINT
112 PRINT"IN GOLF THE OBJECT OF THE GAME
"
113 PRINT"IS TO HIT THE BALL FROM THE"
114 PRINT"TEE TO THE HOLE IN THE"
115 PRINT"FEWEST NUMBER OF SHOTS."
120 PRINT
125 PRINT"WILL THERE BE 1 OR 2 PLAYERS?"
130 K$=INKEY$
133 I$=INKEY$:WM=RND(DD):DD=DD+1:IFDD>10
0THENDD=1:IF I$="" THEN I33
135 IF I$="1" THEN PL=1:LP=0:GOTO145
137 IF I$="2" THEN PL=2:LP=0:GOTO145
140 GOTO130
145 CLS
155 PRINT"YOUR GOLF BAG CONTAINS A:"
158 PRINT
160 PRINT"WOOD MAX.RANGE 251 METRES"
165 PRINT"IRON MAX.RANGE 221 METRES"
170 PRINT"IRON MAX.RANGE 164 METRES"
175 PRINT"IRON MAX.RANGE 127 METRES"
180 PRINT"EDGE MAX RANGE 87 METRES"
185 PRINT"PUTTER MAX.RANGE 41 METRES"
190 PRINT"AND IS ONLY USED ON THE GREEN"
194 PRINT
195 PRINT"TO ACHIEVE GREATER HEIGHT"
200 PRINT"USE A HIGH NUMBERED IRON"
205 PRINT
210 PRINT"SPACE CONTINUES THE GAME"
250 GOSUB20980
300 HO=1:TT=0:T1=0:T2=0:GF=0
350 PA=RND(3)+2
351 PZ=RND(2)
352 IF PA=3 THEN P=3:SX=63:GOTO400
354 IF PA=4 THEN P=4.8
366 IF PA=5 THEN P=6.5
368 IF P=1 THEN SX=8
370 IF P=2 THEN SX=119
400 REM
420 ZB=RND(3):ZW=RND(3):ZJ=RND(3)
430 J3=RND(9)+2
450 A=RND(107)+7:BB=RND(7)+16
453 G=RND(5)+2:B=RND(9)+2:W=RND(10)+3
455 IF ZB=1 THEN J3=0
456 IF ZB=1 THEN BB=0
457 IF ZW=1 THEN W=0
458 C=RND(103)+9:D=13+RND(6)
459 MD=INT(SQR((A-SX)^2+(BB-63)^2)*P)
460 HB=SQR((A-C)^2+(BB-D)^2)
465 IF HB<G+B+3 THEN A458
466 E=13+RND(100):F=14+RND(35)
468 BW=SQR((C-E)^2+(D-F)^2)
470 WH=SQR((A-E)^2+(BB-F)^2)
472 IF BW<B+W+3 THEN A466
474 IF WH<W+G+3 THEN A466
480 J1=RND(103)+9:J2=RND(6)+13
485 HJ=SQR((A-J1)^2+(BB-J2)^2)
490 IF HJ<G+J3+3 THEN A458
492 JW=SQR((J1-E)^2+(J2-F)^2)
494 IF JW<J3+W+3 THEN A466
500 CLS
506 X=SX:Y=63:R1=0:B1=0:W1=0
507 SC=0
509 CLS
510 PRINT"THIS IS HOLE NUMBER" HO
511 PRINT
512 PRINT"PLAYER" LP+1
513 PRINT
514 PRINT"PAR"PA; MD "METRES"
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515 SC=0:X=SX:Y=63:R1=0:B1=0:W1=0
517 GOSUB20980
522 GOSUB20000
523 GOSUB20980
524 CLS
525 PRINT"WHICH CLUB DO YOU WISH TO USE"
527 INPUT CL
530 IF CL=1 THEN AV=29+RND(11):GOTO600
540 IF CL=2 THEN AV=19+RND(11):GOTO600
550 IF CL=5 THEN AV=69+RND(6):GOTO600
560 IF CL=7 THEN AV=74+RND(6):GOTO600
570 IF CL=9 THEN AV=79+RND(6):GOTO600
580 CLS:PRINT"YOU DO NOT HAVE ONE OF THO
SE":GOTO525
600 CLS
602 PRINT"IN WHICH DIRECTION DO YOU WISH
"
610 PRINT"TO HIT? (0 TO 360 DEGREES)"
620 PRINT"MEASURED ANTICLOCKWISE FROM"
630 PRINT"THE RIGHT"
635 GOSUB60300
640 INPUT A2
645 CLS
650 PRINT"HOW HARD DO YOU WISH TO HIT"
660 INPUT "0 TO 50";U
665 CLS
668 PS=3.141592654/180
670 IF U<0 THEN U=0
675 IF U>50 THEN U=50
677 SC=SC+1
680 RA=U*U*SIN(2*A*U*PS)/9.81
682 RS=RA/P
685 HT=((SIN(A*U*PS)*U)^2)/(19.62)
686 IFR1=1 THEN I2000
687 IF B1=1 THEN I3000
690 X=X+RS*COS(A2*PS)
700 Y=Y-RS*SIN(A2*PS)
710 H=INT(X):K=INT(Y)
715 H1=0
720 IF H<0 THEN H=0:H1=1
725 IF H>127 THEN H=126:H1=1
730 IF K<0 THEN K=0:H1=1
735 IF K>63 THEN K=63:H1=0
736 X=H:Y=K
740 IF H1=1 THEN S9000
742 DI=SQR((A-H)^2+(BB-K)^2)
745 REM
746 IF DI<GANDGF=1 THEN T90
747 GOSUB20000
754 COLOR2
755 K$=INKEY$
760 I$=INKEY$
765 SET(H,K):SET(H+1,K)
770 RESET(H,K):RESET(H+1,K)
775 IF I$="" THEN T90
780 IF I$<>" " THEN T90
790 DI=SQR((A-H)^2+(BB-K)^2)
792 DB=SQR((C-H)^2+(D-K)^2)
794 DW=SQR((E-H)^2+(F-K)^2)
796 DJ=SQR((J1-H)^2+(J2-K)^2)
800 DM=DI*P
810 IF DI<G THEN GF=1:GOTO8000
812 IF DB<BANDB<0 THEN T900
813 IF DJ<J3ANDJ3<0 THEN T900
814 IF DW<WANDW<0 THEN I10000
816 CLS
817 PRINT"THAT SHOT WENT "INT(RA)"METRES
"
819 PRINT
820 PRINT"DISTANCE FROM THE HOLE"
822 PRINTINT(COM)"METRES"
825 PRINT"NUMBER OF STROKES"=SC
827 IF PA=4ORPA=5 THEN I1000
830 IF H<40ANDK>31 THEN I1000
835 IF H>86ANDK>31 THEN I1000
840 IF K<8 THEN I1000
845 GOTO2000
1000 IF P=2 THEN I500
1100 IF H>16ANDK>31 THEN I1000
1110 IF K<8 THEN I1000
1120 GOTO2000
1500 IF H<111ANDK>31 THEN I1000
1510 IF K<8 THEN I1000
1520 GOTO2000
2000 GOTO525
7000 B1=1
7005 BH=124.5
7010 PRINT"YOU ARE IN THE (BUNKER)"
7020 PRINT"YOU ARE ADVISED TO USE THE WE
DGE"
7030 GOTO525
8000 GF=1:GOTO60000
8004 CLS
8008 PRINT"YOU ARE ON THE (GREEN) AND WILL
"
8010 PRINT"BE USING THE PUTTER"
8020 PRINT"WHICH DIRECTION (0 TO 360)"
8025 GOSUB60300
8030 INPUT A2
8035 CLS
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# VZ200

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8040 PRINT"HOW HARD DO YOU WANT TO HIT"
8050 INPUT"(0T025)";U
8060 IFU<0THENU=0
8065 IFU>25THENU=25
8070 AU=70
8075 CLS
8200 GOTO677
9000 SOUND4,2:SC=SC+1:GOTO745
10000 W=0
10005 SC=SC+1
10010 H=H+2*W:K=K+2*W
10020 GOTO6000
11000 R1=1
11005 RH=111+RND(15)
11010 PRINT
11011 PRINT"YOU ARE IN THE ROUGH"
11012 IFRH>123THENB$="TALL TREES":GOTO11018
11014 IFRH>118THENB$="MEDIUM TREES":GOTO11018
11016 IFRH>112THENB$="LOW SCRUB":GOTO11018
11018 PRINT"YOUR NEXT SHOT MUST CLEAR SO ME"
11019 PRINTB$
11020 PRINT
11030 GOTO525
12000 IFHT<RHTHENRA=RND(6):GOTO12100
12010 RA=RA/2
12100 R1=0:GOTO682
13000 IFHT<BHTHENRA=0:GOTO13100
13010 RA=RA/2
13100 B1=0:GOTO682
15000 SOUND20,1:SOUND15,1
15002 IFPL=0THENT1=T1+SC:TT=T1:P1=P1+SC-PA:Q=P1
15003 IFPL=1THENT2=T2+SC:TT=T2:P2=P2+SC-PA:Q=P2
15005 A$="" FOR THIS HOLE"
15008 CLS
15010 PRINT039,"CONGRATULATIONS"
15015 PRINT073,"PLAYER"LP+1
15020 PRINT
15030 PRINT"YOU ARE IN THE HOLE"
15040 PRINT"FOR "SC" SHOTS"
15060 IFSC=PA-2THENPRINT"AGLB";A$
15062 IFSC=PA-1THENPRINT"BIRDIE";A$
15064 IFSC=PA-0THENPRINT"PAR";A$
15066 IFSC=PA+1THENPRINT"BOGEY";A$
15068 IFSC=PA+2THENPRINT"DOUBLE BOGEY";A$
15069 IFSC=1THENPRINT"HOLE IN ONE!!!":GOTO15072
15070 PRINT
15072 PRINT"YOUR TOTAL SO FAR IS"TT
15074 IFQ=0THENPRINT"YOU ARE ON PAR FOR THE COURSE"
15076 IFQ>0THENPRINT"YOU ARE "Q" OVER PAR FOR THE COURSE"
15078 IFQ<0THENQ=ABS(Q):PRINT"YOUR TOTAL IS"Q"UNDER PAR"
15080 PRINT:PRINT
16008 PRINT"PRESS THE SPACE"
16010 K$=INKEY$
16020 I$=INKEY$:KD=RND(DD)
16030 DD=DD+1:IFDD>100THENDD=1
16040 IFI$=""THEN16020
16050 IFI$<>" "THEN16020
16060 CLS
16100 IFPL=1THENHO=HO+1:GOTO350
16200 IFPL=2ANDLP=1THENLP=0:HO=HO+1:GOTO350
16210 IFPL=2ANDLP=0THENLP=1:GOTO510
20000 COLOR4
20001 MODE(1):GF=0
20002 IFPA=40RPA=5THEN20112
20005 FORI=0T0127STEP2
20010 SET(I,8):SET(RND(126),RND(7))
20020 NEXT
20030 FORI=0T040STEP2
20040 SET(I,31):SET(RND(40),31+RND(31))
20050 NEXT

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20060 FORI=86T0127STEP2
20070 SET(I,31):SET(RND(40)+86,31+RND(31))
20080 NEXT
20090 FORI=31T063STEP2
20100 SET(40,I):SET(86,I)
20110 NEXT
20111 GOTO20200
20112 IFP2=2THEN20140
20115 FORI=0T0127STEP2
20119 SET(I,8):SET(RND(126),RND(7))
20120 NEXT
20122 FORI=16T0127STEP2
20124 SET(I,31):SET(RND(110)+16,31+RND(31))
20126 NEXT
20128 FORI=31T063STEP2
20130 SET(16,I)
20132 NEXT
20134 GOTO20200
20140 FORI=0T0127STEP2
20142 SET(I,8):SET(RND(126),RND(7))
20144 NEXT
20150 FORI=0T0111STEP2
20152 SET(I,31):SET(RND(110),RND(31)+31)
20154 NEXT
20156 FORI=31T063STEP2
20158 SET(111,I)
20160 NEXT
20162 GOTO20200
20200 FORI=A-GTOA+G
20210 FORJ=BB-GTOBB+G
20220 SET(I,J)
20225 NEXT:NEXT
20226 COLOR2
20228 FORI=BB-11TOBB:RESET(A,I):NEXT
20232 FORI=BB-11TOBB:SET(A,I):NEXT
20233 FORJ=BB-11TOBB-B
20234 FORI=ATOA+4

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20235 SET(I,J):NEXT:NEXT
20236 IFZB=1THEN20265
20238 COLOR2
20240 FORI=C-BT0C+BSTEP2
20250 FORJ=D-BT0D+BSTEP2
20260 SET(I,J)
20264 NEXT:NEXT
20265 IFZJ=1THEN20273
20266 COLOR2
20267 FORI=J1-J3T0J1+J3STEP2
20268 FORJ=J2-J3T0J2+J3STEP2
20269 SET(I,J)
20270 NEXT:NEXT
20273 IFZW=1THEN20349
20275 COLOR3
20280 FORI=E-WT0E+WSTEP2
20290 FORJ=F-WT0F+WSTEP2
20300 SET(I,J)
20310 NEXT:NEXT
20349 COLOR4
20350 FORI=SK-2T0SX+2
20360 SET(I,60)
20365 NEXT
20370 FORI=60T063
20380 SET(SX,I)
20385 NEXT
20390 RETURN
20980 K$=INKEY$
20982 I$=INKEY$:IFI$=""THEN20982
20984 IFI$<>" "THEN20982
20990 RETURN
60000 CLS
60010 PRINT"YOU WERE IN THE WATER AND HA VE"
60020 PRINT"BEEN REPOSITIONED FURTHER BACK"
60030 PRINT"WITH A PENALTY OF 1"
60040 FORI=1T03000:NEXT
60050 GOTO715
60060 MODE(1)

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60070 GS=INT(47/(2*G))
60080 HH=2*(H-A)*GS+63
60090 KK=(K-BB)*GS+31
60093 COLOR4
60095 FORI=12T0106STEP2
60100 SET(I,8):SET(I,55)
60110 NEXT
60120 FORI=8T055STEP2
60130 SET(12,I):SET(106,I)
60140 NEXT
60145 COLOR2
60150 FORI=12T031
60160 SET(63,I)
60165 NEXT
60170 FORI=63T075
60180 FORJ=12T018
60190 SET(I,J)
60200 NEXT:NEXT
60210 FORI=63-GST063+GS
60220 FORJ=31-GS/2T031+GS/2
60230 SET(I,J)
60240 NEXT:NEXT
60243 COLOR4
60245 K$=INKEY$
60246 I$=INKEY$
60250 SET(HH,KK):SET(HH+1,KK)
60270 IFI$=""THEN60246
60280 IFI$<>" "THEN60246
60285 IFDI<=5THEN15000
60290 GOTO8004
60300 PRINT0176,"90"
60310 PRINT0208,"."
60312 PRINT0240,"."
60314 PRINT0272,"."
60320 PRINT0297,"180...BALL...0"
60330 PRINT0336,"."
60332 PRINT0368,"."
60334 PRINT0400,"."
60340 PRINT0432,"270"
60360 RETURN

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FULL GAME AT 20 ON TAPE

## KNIGHTS CROSS

The program is purely graphics and works as follows:

Line 16 sets random colour.

Lines 30-60 creates what I call an inverted German Cross in multi colours.

Lines 90-200 draw a circle in the cross.

Lines 345-370 draw a square.

Line 370 pauses to display the image.

The end result looks like the 'Knights Cross with oak leaves' just like the Germans issued their war heroes.

It shows how we can use the capabilities of the VZ200 to draw very intricate designs by allowing the composition and placement of the A Z Y in the lines 40-43 and 100-170, i.e. A+60 change to A-60 or A+60, 30+Y change to 30-Y, A-60 all sorts of wonderful patterns can be created.

G. Lucas  
Boroko PNG

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1 REM"KNIGHTS CROSS"
2 REM"LOUIE LUCAS BOROKO NEW GUINEA"
3 REM"OC TOBER 1983"
10 CLS
14 MODE(1)
15 FORK=1T024
16 C=RND(3)+1:COLORC
20 FORA=RTOR
30 Y=SDR(A+R*R):Y=INT(Y-.5)
40 SET(A+60,30+Y)
41 SET(A+60,30-Y)
42 SET(Y+65,32+A)
43 SET(55-Y,32+A)
60 NEXT:NEXT
70 FORK=1T012
80 FORA=RTOR
90 Y=SDR(R+R+A):Y=INT(Y-.5)
95 C=RND(3)+1:COLORC
96 SET(A+60,30+Y):SET(A+60,30-Y)
100 SET(A+12,30+Y)
110 SET(A+12,30-Y)
120 SET(A+114,30+Y)
130 SET(A+114,30-Y)
140 SET(A+60,13-Y)
170 SET(A+60,50+Y)
200 NEXT:NEXT
300 C=RND(3)+1:COLORC
345 FORX=0T0127:FORY=0T011
350 FORX=0T0127:FORY=62T063
360 FORX=0T011:FORY=0T063
370 FORX=12T0112:FORY=0T063
400 FORI=1T02000:NEXT
4100 GOTO14

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AT 00 ON TAPE

410 COPY